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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,403	03/26/2004	Dingding Chen	2003-IP-012537 (1391-4930)	3287
30652 7590 05/07/2007 CONLEY ROSE, P.C. 5700 GRANITE PARKWAY, SUITE 330 PLANO, TX 75024			EXAMINER TRAN, MAI T	
			ART UNIT 2129	PAPER NUMBER
			MAIL DATE 05/07/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/811,403	<b>Applicant(s)</b> CHEN ET AL.	
	<b>Examiner</b> Mai T. Tran	<b>Art Unit</b> 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-35 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **REMARKS**

Applicants' amendment dated February 15, 2007 responding to the October 20, 2006 Office Action provided in the rejection of claims 1-35, wherein claims 1-2, 21-22, 30-32, and 34 have been amended and no new claims have been added. Claims 1-35 remain pending in the application and which have been fully considered by the examiner.

The Examiner withdraws the objection to claims 2 and 31 for the minor informalities, corresponding to Applicants' amendment.

The Examiner withdraws the rejection of claims 18-35 under 35 U.S.C. § 101 corresponding to Applicants' amendment.

### **CLAIM REJECTIONS - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **1-17** are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention must be for a practical application by:

1. transforming (physical thing) or
2. having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible)

concrete (substantially repeatable/non-unpredictable), AND  
tangible (real world/non-abstract) result.

In the present case, independent claim 1 is directed to a logging method. An invention that comprises “training a set of individual neural networks to produce one or more output values in response to a plurality of input values from a logging tool”, “using a genetic algorithm having a multi-objective fitness function to select at least one ensemble, comprising a subset of the set of individual neural networks, having a desirable fitness function value” does not produce a tangible result.

Claims that recite a computer that solely calculates a mathematical formula are not statutory.

The Examiner reads the claims carefully to search for limitations to practical applications and finds no final result achieved or produced a useful, concrete and tangible result. The claimed invention for logging method is not statutory.

### **ALLOWABLE SUBJECT MATTER**

The following is an examiner’s statement of reasons for allowance:

Claims **18-35** are considered allowable since when reading the claims in light of the specification, as per MPEP § 2111.01 on *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims 18, 32, and 34 including using a

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genetic algorithm having a multi-objective fitness function (defined at e.g., page 10, paragraph [0034], equation (1)), as specified in claims 18, 32, and 34.

The Examiner was persuaded by the arguments filed.

### **RESPONSE TO ARGUMENTS**

Applicants' arguments filed have been fully considered but they are not persuasive.

Specifically, applicants argue that:

**1. Rejection under 35 U.S.C. §101 and rejection under 35 U.S.C. § 112, first paragraph**

**Argument 1**

Thus, each of the independent claims requires input values or data that represents measurements of a physical object or activity. Accordingly, these claims fall within a "safe harbor" as described in the MPEP on p. 2100-16 of the MPEP 8<sup>th</sup> edition rev. 3 (in § 2106 IV.B.2. (b) Ii): Safe Harbors, Subheading "Manipulation of Data Representing Physical Objects or Activities (Pre-Computer Process Activity)"). The MPEP states "Another statutory process is one that requires the measurements of physical objects or activities to be transformed outside of the computer into computer data," with cites to various cases including *In re Taner*, 681 F.2d 787, 790, 214 USPQ 678, 681 (CCPA 1982). The claims in *Taner* recite processing of seismic data, and they were found by the court to be statutory for just this reason.

Applicants' argument is based on a section in the MPEP that has been deleted from the current version, which is 8<sup>th</sup> Edition, Revision 5 (August 2006). Therefore, applicants' argument is not valid and the rejection STANDS.

### **CONCLUSION**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### **CORRESPONDENCE INFORMATION**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mai T. Tran whose telephone number is (571) 272-4238. The examiner can normally be reached on 10:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.T.T  
Patent Examiner

 4/30/07  
David Vincent  
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